Title 48

PUBLIC HEALTH—GENERAL

Part V. Preventive Health Services

Subpart 5. Fluoridation

Chapter 11. General Provisions

§1101. Definitions

A. Words not defined in this Subpart shall have their common usage and meaning as stated in the *Merriam-Webster's Collegiate Dictionary-Tenth Edition* and other similarly accepted reference texts.

B. Unless otherwise specifically provided herein, the following words and terms are defined as follows.

Caries—tooth decay, also commonly known as cavities.

Community Water Fluoridation—the adjustment of fluoride deficient water in community water supplies to the optimal fluoride level/range for a specified geographic area.

Community Water Supply—a public water system which serves at least 15 service connections used by year-round residents or regularly serves at least 25 year-round residents.

Fluoride Deficient Water—any water supply system which provides potable water having a natural fluoride content below the optimal fluoride level/range for a specified geographic area.

Fluoride Source Material—the approved fluoride-containing product which is to be used to adjust the potable water supply to the optimal fluoride level/range.

Ground Water—subsurface water occupying the saturation zone from which wells and springs are fed. In a strict sense the term applies only to water below the water table.

Monitoring—the analysis and recording of the fluoride ion content of water in a community water supply on a regular basis.

Optimal Fluoride LevelRange—that level of fluoride which has been deemed to be most beneficial to health as set forth by the Centers for Disease Control and Prevention (CDC) for community water supplies. For community water supplies in the state of Louisiana, the optimal fluoride level is 0.8 mg/L; however, the acceptable range is from 0.7 to 1.2 mg/L.

Permit—a written document issued by the state health officer through the Office of Public Health which authorizes construction and operation of a new potable water supply or a modification of any existing supply.

Person—any natural person, individual, partnership, corporation, association, governmental subdivision, receiver, tutor, curator, executor, administrator, fiduciary, or representative of another person, or public or private organization of any character.

Potable Water—water having bacteriological, physical, radiological, and chemical qualities that make it safe and suitable for human drinking, cooking and washing uses.

Potable Water Supply—a source of potable water, and the appurtenances that make it available for use.

Public Water Supply—public water system.

Public Water System—a system for the provision to the public of water for potable water purposes through pipes or other constructed conveyances, if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year. Such term includes:

a. any collection, treatment, storage, and distribution facilities under the control of the operator of such system and used primarily in connection with such system; and

b. any collection or pretreatment storage facilities not under such control which are used primarily in connection with such system.

Sample Points—locations in a community water supply's distribution system where water samples are taken for fluoride analysis. These sample points of finished water shall be taken at the consumer's taps throughout the distribution system where the water will be representative of the whole community water system.

Service Connection—the pipe from the water main and/or water meter, potable water supply system or other source of potable water supply to the building or structure served.

Source Water—any water well, spring, cistern, infiltration gallery, stream, reservoir, pond, or lake from which, by any means, water is taken either temporarily or continuously for potable use.

Sub-Optimal Fluoride Level—any adjusted fluoride level that is below the optimal fluoride level/range for a specific geographic area.

Surface Water—derived from water sources on the surface of the earth such as streams, ponds, lakes, or reservoirs.

Surveillance—the necessary steps to assure that the fluoride content in water over a period of time is in compliance with the optimal fluoride level/range in a community water supply for a specific geographic area.

Water Supplier—a person who owns or operates a water supply system including, but not limited to, a person who owns or operates a public water system.

Water Supply System—the system of pipes or other constructed conveyances, structures and facilities through which water is obtained, treated to make it potable (if necessary) and then distributed (with or without charge) for human drinking, cooking, washing or other use.

Water Well (Well)—an artificial excavation that derives water from the interstices of the rocks or soil which it penetrates.

AUTHORITY NOTE: Promulgated in accordance with P.L. 97-35, Section 901; 45 CFR Parts 16, 74, and 96; 42 USC 2476; and R.S. 40:5.11(G).

HISTORICAL NOTE: Promulgated by the Department of Health and Human Resources, Office of Preventive and Public Health Services, LR 13:246 (April 1987), amended by the Department of Health and Hospitals, Office of Public Health, LR 36:68 (January 2010).

Chapter 13. Statewide Fluoridation Program

§1303. Background and Purpose

A. The fluoridation of community water supplies is the most effective mechanism for preventing dental caries. It is the only means whereby people of all ages in an area can be reached from birth and at a low cost. This has added significance for the many people who are dentally indigent.

B. The benefits of community fluoridation in maintaining dental health are substantial.

1. Persons drinking water which contains fluoride within the optimal fluoride level/range have teeth which are more caries resistant.

2. The caries rate among children drinking water which contains fluoride within the optimal fluoride level/range can be as much as two-thirds less than among children drinking fluoride deficient water.

3. By the time that children reach their teens, about six times as many residing in communities which have their community water supply meet the optimal fluoride level/range are completely free of caries as their counterparts in fluoride deficient areas.

4. When the optimal fluoride level/range in a community water system is maintained, extractions of permanent teeth caused by premature loss of primary teeth can be prevented. In addition, crooked and overlapping permanent teeth caused by premature loss of primary teeth can be prevented.

5. Adults consuming water which contains fluoride within the optimal fluoride level/range throughout life can expect fewer tooth extractions due to caries and are less likely to become edentulous (lose all their natural teeth) in later years.

C. Community fluoridation of drinking water produces economies in children's dental care in terms of both cost and treatment time. The cost benefit ratio has been estimated to be 1:38. Children receiving the benefits of fluoridation in their drinking water require fewer dental treatment services and the treatment that is required is less complex and, therefore, less costly and less time consuming to provide. The costs of children's dental care in fluoridated areas can be less than one-half the cost in fluoride deficient areas.

AUTHORITY NOTE: Promulgated in accordance with 45 CFR Parts 16, 76 and 96; P.L. 97-35, Section 901; 42 USC 2476, and R.S. 40:5.11(G).

HISTORICAL NOTE: Promulgated by the Department of Health and Human Resources, Office of Preventive and Public Health Services, LR 13:246 (April 1987), amended by the Department of Health and Hospitals, Office of Public Health, LR 36:70 (January 2010).

§1305. Requirements for Fluoridation of a Public Water System

A. LAC 51:XII.105 of the Louisiana State Sanitary Code requires approval by the state health officer or his/her duly authorized representative for certain types of changes made in the treatment of water offered the public. The addition of the fluoride ion to water is covered by that regulation.

B. For any public water system desiring to fluoridate its water, a formal request shall be made to the state health officer for approval to install the necessary fluoridation equipment.

C. In accord with R.S. 40:5.11(B), each community water supply having at least 5,000 service connections and natural fluoride levels that are outside the optimal fluoride level/range as defined in §1101.B of this Subpart shall acquire, install, operate, and maintain a fluoridation system in order to maintain the optimal fluoride level/range in the water being produced and distributed.

NOTE: Exemptions. Any community water supply to which Subsection C of this Section applies shall be exempt from the requirements of Subsection C of this Section when either of the following is applicable.

1. The Department of Health and Hospitals (DHH) is unable to identify a source of sufficient funds available to the community water supply to cover the capital costs, any associated costs to cover the installation, and the funds

necessary to cover the cost of purchasing sufficient fluoride source material required to properly fluoridate the system for a period of six months from the date of initial installation and operation; or,

2. A community water supply has never used fluoridation to adjust fluoride levels in its water and its finished water contains fluoride in amounts outside of the optimal fluoride level/range as defined in §1101.B of this Subpart, and a local election on such exemption has been called and held in accordance with R.S. 40:5.11(B), and a majority of the registered voters who cast a vote in said election approve such exemption.

D. Any community water system with less that 5,000 service connections that submits a formal request per Subsection B of this Section must enclose with that request a copy of the ordinance or resolution directing the fluoridation of the water system duly passed by the appropriate governing body.

AUTHORITY NOTE: Promulgated in accordance with 45 CFR, Parts 16, 74, and 96; P.L. 97-35; 42 USC 2476; and R.S. 40:5.11(G).

HISTORICAL NOTE: Promulgated by the Department of Health and Human Resources, Office of Preventive and Public Health Services, LR 13:246 (April 1987) , amended by the Department of Health and Hospitals, Office of Public Health, LR 36:70 (January 2010).

§1307. System Requirements

A. Detailed plans and specifications for which a fluoridation permit is requested shall be submitted in duplicate, to the Department of Health and Hospitals – Office of Public Health's (DHH-OPH) District engineer and the DHH-OPH's fluoridation engineer by the responsible person of the water supply system. Such plans and specifications shall be submitted prior to construction.

B. The following provides minimum requirements as well as additional information to assist in the application for a fluoridation permit and in the preparation of plans and specifications. The review and approval of plans and specifications submitted for the issuance of a permit, shall be made in accordance with the "Recommended Standards for Water Works, 2003 Edition" (aka the "Ten State Standards") plus any additional requirements as set forth in this Subpart. Additional fluoride-related documents which may be used by a community water system as guidance/information purposes may be found in the CDC's Morbidity and Mortality Weekly Report (MMWR) titled "Engineering and Administrative Recommendations for Water Fluoridation, 1995", as amended, and in the American Water Works Association (AWWA) "Water Fluoridation Principles and Practices M4, Fifth Edition", as amended.

1. Three general types of fluoride compounds are approved for fluoridation of water supplies; namely, sodium fluoride, sodium fluorosilicate and fluorosilicic acid. Each has certain advantages and disadvantages, and the type chosen will depend on the characteristics of the water to be treated and the capacity of the supply.

2. The fluoride source material to be used must conform to NSF International/American National Standards Institute (NSF/ANSI) Standard 60-2009 and the applicable AWWA specification, as follows:

a. for sodium fluoride, AWWA Standard B701-99;

b. for sodium fluorosilicate, AWWA Standard B702-99; or

c. for fluorosilicic acid, AWWA Standard B703-00.

3. The fluoridation system shall only operate when a flow of water is detected. If the water supply system serves less than two hundred service connections, a secondary flow-based control device shall be provided as back-up protection.

4. A means of measuring the total amount of water treated daily and the amount of chemical injected within the same time period must be provided. These measurements must be accurate to within 5.0 percent.

5. Fluorosilicic acid shall be stored in the original containers or containers provided for the specific purpose, apart from the other chemicals used in the water treatment process. Bulk storage tanks shall be in secondary containment per LAC 33:IX.Chapter 9.

6. When bulk storage of fluorosilicic acid is provided, a day tank shall be provided. The day tank shall hold no more than a 30 hour supply, as calculated at maximum feed rate. The day tank should be scale mounted, preferably under shelter. If scales are not used, level indication can be used for the calculation of the amount of chemical used provided it is accurate within five percent. Filling of day tanks shall not be automated.

7. A diaphragm-type anti-siphon device shall be installed in the fluoride feed line when a metering pump is used and shall be located at the fluoride injection point. A second diaphragm-type anti-siphon device should be installed immediately downstream of the metering pump's discharge head. These anti-siphon devices shall have a diaphragm that is spring-loaded in the closed position.

8. The following safety equipment shall be required for operators handling the following fluoride compounds:

a. fluorosilicic acid: gauntlet neoprene gloves, a minimum of 12 inches long with cuffs; full face shield and splash-proof safety goggles; and a heavy-duty, acid-proof neoprene apron;

b. sodium fluoride or sodium fluorosilicate: the same safety equipment required under Subparagraph 8.a. of this Subsection for fluorosilicic acid with the exception that the full face shield shall be replaced by a National Institute for Occupational Safety and Health/Mine Safety and Health Administration (NIOSH/MSHA) approved, N-series respirator;

c. for dry chemical systems, an eye wash station should be available and easily accessible; and

d. for acid systems, an eye wash station shall be available along with a safety shower and both shall be easily accessible and connected to an approved potable water supply.

AUTHORITY NOTE: Promulgated in accordance with 45 CFR, Parts 16, 74 and 96; P.L. 97-35, Section 901; 42 USC 2476; and R.S. 40:5.11(G).

HISTORICAL NOTE: Promulgated by the Department of Health and Human Resources, Office of Preventive and Public Health Services, LR 13:246 (April 1987), amended by the Department of Health and Hospitals, Office of Public Health, LR 36:70 (January 2010).

§1309. Monitoring and Compliance—Optimum Fluoride Levels

A. If a water supply system has a single fluoridation system which treats all the water distributed to system consumers, the supplier shall collect a daily water sample for fluoride analysis either in the distribution system or at the entry point. If a water supply system does not fluoridate all its water and/or has more than one fluoridation system, the supplier shall collect a minimum of one water sample daily in the distribution system and shall rotate the sample site daily in order to obtain representative results of the level of fluoride in the water provided throughout the distribution system. If the water supply system is such that a single daily sample taken in different locations cannot

provide a representative level, then multiple samples may be required. The number, location, and frequency of samples shall be in accordance with a monitoring plan developed by the water supply system and approved by the DHH-OPH.

1. If more than 20 percent of the daily fluoride samples collected in a month by a water supply system fall outside the optimal fluoride level/range, the system shall be out of compliance with the optimal fluoride level/range.

2. At least once a month, any water supplier with an operating fluoridation system shall divide one sample and have one portion analyzed for fluoride in a "DHH-OPH Approved Chemical Laboratory/ Drinking Water" lab (normally, on-site of the water treatment plant – see LAC 51:XII.Chapter 15) and the other portion analyzed for fluoride in a "DHH-OPH Certified Laboratory for Drinking Water Analyses – Chemistry". (A list of such "DHH-OPH Certified Laboratory for Drinking Water Analyses – Chemistry" may be found on the DHH-OPH website at the following url address: "http://www.dhh.louisiana. gov/offices/?ID=204".)

3. Any water supply system with an operating fluoridation system shall sample the raw source water(s) annually and analyze for fluoride.

AUTHORITY NOTE: Promulgated in accordance with R.S. 40:5.11(G).

HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 36:71 (January 2010).

§1311. Recordkeeping and Reporting

A. By the tenth day of each month following the month being reported, each water supplier fluoridating its potable water supply shall send operational reports to the DHH-OPH's District Engineer and the DHH-OPH fluoridation engineer which shall include the following:

1. The fluoride source material used and the calculated fluoride dose in mg/L based on the latest annual raw source water(s) fluoride level.

2. Information on any interruptions in the fluoridation treatment which may have occurred during the month including the duration of the interruptions, an explanation of the cause(s), and what corrective actions were taken to insure that fluoridation treatment was resumed in a timely manner;

3. The results of the daily monitoring for fluoride in the water distribution system reported in terms of daily result, ranges, and the number of samples collected; and,

4. The results of monthly split sample(s) analyzed per §1309.A.2 of this Chapter.

B. If a fluoride overfeed exceeding 10.0 mg/L occurs, the water supply system shall notify the DHH-OPH by the end of the business day of the occurrence or, if the overfeed occurs on a weekend, state holiday, or other times of state office closure, the water supply system shall notify the DHH-OPH via e-mail communication to: safe.water@la.gov.

AUTHORITY NOTE: Promulgated in accordance with R.S. 40:5.11(G).

HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 36:71 (January 2010).

§1313. Funds Allocation

A. DHH-OPH shall prioritize water supply systems with 5,000 or more service connections that are not fluoridating to optimum fluoride levels for the receipt of funds as they become available. Priority will be based on cost effectiveness as well the level of funds available. The priority list will be periodically reviewed.

B. DHH-OPH shall also consider requests for funds from water supply systems with less than 5,000 service connections. Fund allocation will be based on cost effectiveness.

C. Within 90 days of written notification from DHH-OPH to the community water system of the availability of funds, the community water system shall submit an estimate of the cost to acquire and install the needed fluoridation equipment as well as an estimate of the cost of fluoride source material required to fluoridate the system for a period of six months from the date of initial installation and operation.

D. Upon acceptance of the submitted cost estimate by DHH-OPH, a written agreement between the State of Louisiana's DHH-OPH and the governing body of the community water system shall be executed for the commissioning, construction, and the first six months of fluoride source materials for the required fluoridation system. Transfer of funds shall be through reimbursement to the water supply system for paid invoices as they are submitted to the DHH-OPH.

E. All design, procurement, and construction shall be completed in a timely manner consistent with the reimbursement of funds by the DHH-OPH. Upon completion of construction and the receipt of the initial six months supply of fluoride source material, as well as the completion of appropriate operator training and certification, the water supply system shall promptly initiate water fluoridation and shall maintain the optimum fluoride level/range throughout its distribution system.

AUTHORITY NOTE: Promulgated in accordance with R.S. 40:5.11(G).

HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 36:71 (January 2010).

§1315. Requirement for Continued Operation

A. Any public water system with over 5,000 service connections that has initiated fluoridation prior to, on, or after July 6, 2008 shall not discontinue fluoridation without the approval of a majority of the registered voters who cast a vote in a local election called and held in accordance with R.S. 40:5.11(B).

B. Any public water system with fewer than 5,000 service connections that has initiated fluoridation as directed by ordinance or resolution of the appropriate governing body shall not discontinue fluoridation without the approval of that governing body.

AUTHORITY NOTE: Promulgated in accordance with R.S. 40:5.11(G).

HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 36:72 (January 2010).